FINAL TECHNICAL REPORT

OSRO/RAS/602/JPN

« Surveillance model for Avian Influenza in 4 pilot provinces in Vietnam »

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October – Decembre 2006

Hanoi, Vietnam

Report N° : 2007/026

Decembre 2006

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ACCES AU DOCUMENT :
Service de Documentation du CIRAD
(Bibliothèque de Baillarguet)

ORGANISME AUTEUR :

CIRAD – Département EMVT

ACCES à la REFERENCE du DOCUMENT:
- Libre

MISSION FINANCEE PAR : FAO

REFERENCE :

TITRE : Surveillance model for Avian Influenza in pilot provinces in Vietnam
TYPE D'APPROCHE : Mission d'expertise

DATE ET LIEU DE PUBLICATION : Janvier 2007 Montpellier, France

PAYS OU REGION CONCERNES : Vietnam

MOTS CLES : Avian influenza, surveillance, Vietnam

RESUME :

Dans le cadre d'un projet financé par le Gouvernement Japonais et mis en œuvre par la FAO, le CIRAD est intervenu pour effectuer une mission d'expertise relative à la surveillance de la grippe aviaire hautement pathogène. Cette mission avait pour objectif de proposer des activités permettant de renforcer le niveau de surveillance actuel de la maladie dans les 4 provinces pilotes du projet. Il a été demandé au consultant de faire une revue des systèmes existants et de proposer un modèle de surveillance peu coûteux qui après avoir été testé à une petite échelle, pourrait être proposé au Gouvernement pour extension éventuelle.
Sur la base d'une revue documentaire et de mission de terrain, une analyse du système de surveillance actuelle a pu être réalisée. Une approche en 3 étapes a été ensuite proposée :

- Renforcer le système de surveillance passive en introduisant notamment une définition de cas suspect plus sensible devant ainsi limiter la sous déclaration et tenter de lever certaines contraintes techniques et politque à la notification des cas.
- Renforcer les capacités en terme d'investigation des foyers et proposer un outil d'aide à la décision simple qui permettrait aux vétérinaires de terrain de juger du niveau de risque face à un cas suspect de grippe et de proposer des actions adéquates aux responsables politiques.
- Introduire un programme de surveillance active ayant pour but de palier les insuffisances du système de déclaration passif. Ce programme comprend une composante visant à la certification des élevages semi-commerciaux vaccinés et une seconde composante qui introduit la notion de surveillance participative dans des villages sentinelles sélectionnés selon le risque d'introduction et de diffusion de la grippe.

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Introduction

One of the objectives of the project OSRO/RAS/602/JPN implemented by FAO in Vietnam is to strengthen the surveillance and the rapid response capability of the local veterinary authorities regarding the Highly Pathogenic Avian Influenza.
After heavy losses due to the H5N1 epidemic, the number of oubreaks was largely reduced in 2006 probably due to a conjonction of events including the mass vaccination campaign and the improvement of the control responses for the last outbreaks.
Despite this success in term of control of outbreaks, the virus is still circulating at a low level among the domestic poultry population. The challenge at this stage is to make the field workers understanding that vaccination does not mean a reduction of efforts in term of prevention and surveillance.
In order to build on what already exists, a prelimirary review of the current surveillance system is presented. Based on that review proposals were issued for a sustainable surveillance model adapated to the epidemiological situation of the AI in Vietnam.
Those proposals will be tested and assessed in the 4 pilot provinces of the project before to be proposed for extension in case of positive results.

Terms of Reference

International Consultant – Expert on Field Surveillance Models

OSRO/RAS/602/JPN

The expert shall operate under the overall guidance of the FAO Chief Veterinary Officer, the general technical supervision of the Emergency Centre for Transboundary Animal Diseases (ECTAD) Regional Manager based in the Regional Office for Asia and the Pacific (RAP) and the operational supervision of the Chief, Emergency Operations Service (TCEO). The incumbent will be under the direct technical supervision of the team leader of the FAO HPAI Programme in the country and the general operational and administrative supervision of the FAO Representative.

Specifically the consultant will:

- review field surveillance models already developed, which could be applicable for the Vietnamese context, including existing concepts developed in Vietnam
- In collaboration with DAH counterparts and a national consultant adapt models evaluated to develop a cost-effective, feasible and sustainable model for Vietnam
- design a pilot study to be carried out in one or more of the Japan Trust Fund targeted provinces
- Provide a comprehensive mission report to DAH and FAO

Qualifications: The Consultant will have veterinary degree from an internationally recognized veterinary faculty and have at least six years of proven experience. The Consultant should have working experience in the Southeast Asia region, preferably in Vietnam.

Languages: S/he will have level C proficiency in English.

Duty Station: Hanoi, with travel to the provinces, as required.

Duration: 25 days 'when actually employed' between 01 October & 30 November 2006

Security: The consultant must be aware of the security phase of country of assignment and understand the implications for his/her own security. As soon as he arrives at the duty station, through the FAO Representative or directly, he must contact the designated security officer to be briefed on all the recommended security measures. In case this procedure is not correctly applied, the consultant may not be covered under the insurance.

Vaccinations: The consultant must ensure that he has received any necessary medical vaccinations/ medical care before departing from home address.

Mission Agenda

Date	Total	Activity
14/09 pm		Preliminary meeting at DAH with Jeff Gilbert and Aurelie Brioudes
15/09 pm		Preliminary meeting with North project manager, Mathieu Carles
11/10	1 D	Bibliography review
12/10 pm	½ D	Meeting at FAO with FAO team, Miss Thuy from DAH, South national consultant
17/10&18/10	2 D	Needs assessment mission at Nam Dinh province with M.Carles, LP Long and A.Brioudes
23/10	¼ D	Meeting at DAH with Dr Dung and Dr.P.T Long
24/10	½ D	Work at the office
25/10	1 D	Meeting at FAO with FAO team (North and South) an DAH team
26/10	½ D	Reports review
27/10	½ D	Office work and phone meeting with AIERP project manager (T.Delquiny)
28/10	¼ D	Office work
30/10&31/10	2 D	Project proposal formulation
01/11	1 D	Meeting at DAH with national counterparts, Work at FAO with M.Carles and P.T Long Participation to a training organised by AVSF within AIERP project
02/11	1 D	Project proposal formulation
03/11	¾ D	Work with FAO team
06/ 11	¼ D	Report writing
07/11	1 D	am: work with M.Carles + meeting at DAH with Dr H.V.Nam, deputy director pm: office work
08/11	1 D	Am: meeting with national counterparts at DAH Pm: work at FAO on outbreak investigation form
09/11	¾ D	Am: report writing Pm: work at FAO
10/11	¾ D	Am/ pm: Work with national consultant on training content and agenda
13/11	½ D	Work on format development
14/11	1/2 D	Work on training content + decision tree + active surveillance programme
15/11	¾ D	Am: work on active surveillance programme Pm: meeting at FAO with Dr D.H Dung, Nike Taylor and FAO team
16/11	1 D	Visit to Nam Dinh province to present and discuss the different proposals
20/11		Am: short meeting with Mr Michida
23/11	¼ D	Report writing
24/11	½ D	Work at FAO office
2/12	¼ D	Meeting with World Bank consultant (Les Sims) to discuss the proposal on active surveillance
4/12	¼ D	Training preparation
5 and 6/12	2 D	Training at Phu Tho province
12/12	¾ D	Report writing
13/12	½ D	Pm: meeting at FAO on training debriefing and activities planning
14/12	1/2D	Am: meeting at DAH with national counterparts and work at office
15/12	¾ D	Active surveillance programme finalisation Meeting at FAO to discuss communication tools Report writing
19/12	1 D	Meeting at FAO with DAH and FAO teams to present and discuss the active surveillance program Report writing
TOTAL	24.5 D	

Half day left is kept for finalising the discussion on active surveillance programme in January

1. Assessment of the current surveillance system for poultry diseases reporting

This assessment was based on:

- personal field visits and meetings,
- needs assessment missions by project managers within the FAO/JTF project for the four pilot provinces,
- reports from other sources (AEIRP project conducted by AVSF in 10 provinces, AILRR project conducted by CARE, CIRAD project in Hoai Duc district, Ha Tay province).

General findings

The current system reveals that in 2006 only few suspicions of HPAI in the South and not one for a long period in the North were reported; this is a clear indication that the system is not working since poultry mortality due to acute diseases generally occurs every years. Either the system did not detect any suspicion which demonstrates a lack of sensitivity in the surveillance system or the system did not report the suspicion(s) which may indicate a problem in the reporting methodology and data management or a politicization of the information related to AI in some areas which make difficult for the surveillance system stakeholders to report.

Investigation of possible causes of the observed system disorders

A general description of the routine and early notification systems is provided in **annex 1** with identification of main weaknesses and constraints.
They are summarised below, following the criteria commonly used to describe a surveillance system for animal diseases.

Sensitivity: % of case detected by the surveillance system among all animals with the disease

The sensitivity of the system cannot be estimated as long as there is no information on the disease prevalence but, if one consider that the incidence of HPAI during the past year was not 0, the sensitivity need to be improved.

Specificity: % of cases without the disease and negative on surveillance among all animal without the disease.

At this time the specificity of the system cannot be estimated since there was no suspect case reported. But it seems that the case-definition used at field level is quite specific which may lead to the risk of under-reporting HPAI cases which do not meet exactly this case-definition.

Timeliness: reporting, investigation and diagnosis made in acceptable delay according to the importance of the disease (contagiousness, impact on animal health or public health)

The timeliness varies according to the places but in average the time between a suspicion is detected by a paravet and a decision of control is around 3 days which is acceptable but could still be improved. The real constraint is the time a farmer may take before reporting a suspect mortality.

Regarding the delay at laboratory level, it seems that huge improvements have been achieved. The objective of 24 hours between the reception of the sample and the result is a target of the laboratory network.

Representativeness: the data is collected without bias from all types of herd and from all areas.

The representativeness of the current surveillance system for poultry is not adequate. Indeed, the **semi-commercial sector is not properly covered by the existing surveillance models** since all the efforts for the data collection are based on the strengthening of the link between the paravets/head of paravets and the DVS whereas the paravets are not commonly called by the semi-commercial farmers. Thus, there is an important gap in the data collection since a sector, considered at high risk for HPAI transmission, is not fully part of the surveillance system.
The commercial sector is also outside of the current system but poses a smaller risk for AI transmission.

Simplicity: the system must be implementable by all members with their current means and knowledge

In most of the provinces the data has to follow two flows: the administrative one and the technical one. This situation makes the reporting of important health events quite heavy.
Not in every provinces the farmers, paravets or veterinarians have an easily access to phone.
Regarding the data standardisation, it seems that not all the forms are easily adopted by the stakeholders; this may reveal a poor understanding of those medium.
Another important constraint is represented by the limited resources for travel expenses at DVS which limits the possibility and willingness to react in case of suspect case reports.

Flexibility: the system must adapt to unforeseen events

It seems that in urgent situation, the stakeholders are able to adapt the system to report urgently to the above level.

Acceptability: the system must be accepted by the stakeholders

The system is probably not accepted by every stakeholder since it is not known by all of them. There is a need for every stakeholder, and especially to the responsible of the network at commune and district level to be better explained the reporting procedures and more importantly to have their duties clearly defined.

2. Proposals for reporting and data management methodologies improvement

General approach:

The idea is to **stimulate the current reporting surveillance system** by awareness campaign and by trying to remove some of the identified obstacles for reporting.
The key stone of the awareness campaign was to spread a new case-definition for AI. The objective was to get a very sensitive case-definition where AI is put in parallel with other acute poultry diseases (ND, pasteurellosis and duck plague).
The purposes of diluting AI among other diseases are:

1) to make farmers and paravets understanding they cannot differentiate those diseases from AI and as a consequence, they should report when they suspect any of them;

2) to facilitate the sending of samples by limiting the restraints of political level (cf. the other diseases do not imply strict control measures);

3) to provide an incentive for farmers and paravets by supporting free laboratory testing for the 4 diseases.

2.1 Improve the detection and the reporting of HPAI suspect cases by farmers and paravets

- ***Clarify the case-definition of a HPAI suspect case and assist the DVS to classify the suspect cases***

It seems that the case-definition used by the field workers is quite specific and probably leads to an under-reporting of the HPAI suspect cases. It is important to **give a simpler case-definition for the first level of the surveillance system**: the farmers and the paravets. It is then possible that the DVS is doing a screening using more detailed criteria. It was proposed here to **develop a decision tree to assist the DVS** to know which actions have to be undertaken according to the level of suspicion using standardised epidemiological findings during the first visit.

See annex 2 for the AI suspect case confirmation and the proposed decision tree.

- ***Targeted education programs on "Reporting" (activity n°2)***
    - For farmers and paravets

Main message: when to report (case-definition) to whom (contact names and phone) or where (name and localisation of the place) why (public health, animal health and regulation)
Proposed communication tools:

- A book note with hotline numbers + contacts of commune head of paravets and/or DVS
- A sticker with hotline numbers (to be put on motorbike for instance)
- leaflet and calendar for paravets

    - For drugs sellers, feeding sellers, poultry traders

Main message: what to do when a farmer is reporting to you unusual mortality on his poultry.
Proposed communication tools: calendar, leaflet

See annex 3 for TOR of the trainings
See annex 4 for model of communication tools

- ***Rewarding policy and Emergency funds*** *available at Province (activity n°4)*

A rewarding policy is already is place in Nam Dinh province. This policy was initially established for FMD and CSF. The sub-DAH informed us that this policy is now also in place for AI, but at the district level very few officers knew about it, so we can easily imagine that paravets and farmers never heard about it.
Thus it was proposed to **advertise about this rewarding policy** as an incentive for paravets and farmers to report.
The rewarding will be given on the basis of the positive laboratory results for the first reported case of a commune or district.
To facilitate the implementation of such a policy the idea of **establishing an emergency fund** was proposed to the DAH without frank success. It should be proposed again if the current system shows some limitations. It would be necessary to discuss with Provinces how such a fund could work. The involvement of Women Unions to manage this fund could be assessed, especially if private sector is asked to support it; or farmers association if any in the province.
The emergency funds could also be used to provide immediate compensation and the Central Government will reimburse the amount for compensation according to national rate. Again this proposal had not a great success at the central level in a context where the number of cases is very limited and then the Government can manage to reimburse in a short delay. Nevertheless, during our needs assessment missions, it was clear that during the pick of epidemic, the farmers did not receive their compensation within an acceptable delay, and thus this proposal might be reconsidered in case of new crisis.

- ***Moral contract between members of a community***

The DVS could organise meeting with head of villages to propose them to organise meeting in their village to inform the families and request them to report any suspicion of AI on their houses.
It seems that this system was used previously for NCD and the idea to use it again for AI was supported at the national AI steering committee. This proposal has not been submitted yet to the provinces but **could be explored in case of failure of the current system**.

2.2 Improve the early notification

- ***Targeted education program on reporting(activity n°2)***
  - for drugs and feeding shop
  - for all the paravets
  - for poultry traders

Those stakeholders must receive clear indications on the way to report to the veterinary authorities. Indeed, one of the output of the pre-tet awareness campaign assessment what that the recommendation "report to the veterinary authority" was too vague. People were not explained how to do, so they could not implement this recommendation.

- ***Set up hotline with free access numbers (activity n°1)***

The access to the hotline could be opened for everybody.
The Hotline standard will be at the province level.

- ***Improve the access to a phone** without charge* for a paravet or a farmers willing to report a suspect case

The access to a phone might still be a constraint in some places. Usually the communal PC office has a phone available for such calls but it means the paravet needs to come back to the commune. In order to reduce the delay and to facilitate the notification from the stakeholders, it is proposed to identify houses in some villages (head of village's house or other places) where an advertisement could be posted explaining that in this house a phone is available for free to report suspect case of AI (an other contagious diseases?). The idea is to assure a good coverage in each commune

A contract could be signed between the DVS and the owners of those houses: a lump sum has to be fixed from the beginning and will allow posting the sign. Then, the owner will not receive anything else since the cost of the call using the hotline will be free of charge.

See annex 5 for a model of sign to be posted in selected houses.

This proposal was not implemented in the pilot provinces because the sub-DAH considered it was not necessary. It could be considered in province where access to the phone is a bigger problem

- ***Awareness actions for the members of PC at commune, district and provincial level (activity n°5)***

Objective: sensitize the political level on the need to report an HPAI suspect case.

2.3 Improve the representativeness of the current surveillance system

- Organise a **census of semi-commercial** farms in every DVS in order to strengthen the link between the DVS and the semi-commercial sector. During the census, distribution of leaflets, poultry-production book-note and technical books can be organised. (***activity n°7***)

A model of poultry-production book-note (where every actions, treatments.. made on a flock is recorded) could be developed by a poultry specialist.

A national database could be developed to register the biggest poultry farms. A model for such a database has already been developed by CIRAD in Cambodia and was provided to DAH for adaptation to national context.

- **Involve the veterinary drugs and feeding shops in the awareness campaign** to use them as a relay of communication. They can be trained to the message they have to pass to the farmers when they have farmers reporting unusual mortality in their farms (***activity n°2***)

- **Develop an active surveillance component** to fulfil the gap of the current passive surveillance system (***see chapter 3***).

2.4 Strengthen the link between paravets at commune level

- **Census of all paravets** working at the commune level in order to get an updated list of paravets, available at commune and district offices, with possibly their localisation and contact (***activity n°6***)

In the case of a project extension, it could be interesting to support the sub-DAH to start a **licensing process** for paravets.

- The **education program on Reporting, organised by DVS** must touch all the paravets of the communes (***activity n°2***)
- In most of the provinces the head of paravets (of chief of CVB) is receiving allowances according to a national decree, it is considered of highly importance **to support the implementation of this national reguation in all the 4 project pilot provinces by awareness on the decision makers.(*activity n°5*).**

A first meeting was organised with the representative of the provincial agriculture office of Nam Dinh province where heads of paravets do not receive allowances (contrary to Pho Tho province) to present the project and discuss this point. During this meeting we learnt that the province was preparing a policy to provide allowances for the paravets of the 229 communes.

2.5 Strengthen the link between the Commune level and the DVS

- For districts with strong constraints to go on the field the organisation of a monthly data collection by phone can be supported. For others, the project must support the idea of planned visits to head of paravets (activity n°8)

- **Support the idea** at district and provincial People Committees **to have field travel allowances on separated budget for DVS staff.**

During the duration of the project, extra travel expenses will be supported but to a level that the provinces will be able to afford once the project stops. Indeed some provinces already have detailed prices for per-diem and travel expenses for their staff. This was used by the project manager as a basis for the project (*activity n°5).*

2.6 Improvement of data standardisation (*activity n°3)*

This standardisation is proposed in order
- to limit the use of narrative reports difficult to use.
- to enable the DVS to better screen the suspicion reports
- to enable DVS to improve outbreak investigation

- Develop, edit and distribute a **book note for paravets** (annex 4)

- Propose a **standard format for data collection at DVS and sub-DAH** (annex 7)

This format is dedicated to the information received by hotline or by direct contact to DVS. Form developed by AIERP project was used with minor changes.

- **Support the use of TAD info** for data transmission from SDAH to DAH

An updated training on TAD info use is planned for each sub-DAH by national consultants.

- Develop and propose an **outbreak investigation form** (annex 8)

In order to assist the district vets in their outbreak investigations, it was proposed to develop a form to remind them to collect all necessary information when visiting an AI suspect farm. During the training a Sub-DAH, attention was drawn on the importance of the trace-back and trace-forward investigations. So far, no form was used for outbreak investigation.

The idea of having a form to help the investigation was well received but some staff considered it might be too long to fill.

⇨*The project should follow-up the use of this form by district veterinarians.*

2.7 Improvement of data compiling and analysis *(activity n°9)*

- Provide basic tools for descriptive epidemiology at DVS and SDAH

On a routine basis, the DVS should be able to describe disease occurrence using the data collected from the field. The data could be used to:

- Locate on a map the reported outbreaks of main animal diseases
- calculate the apparent prevalence of infected communes and villages

This analysed data could be used for dissemination to the stakeholders.
One summary page per month could be printed and posted at the communal People Committee offices, in markets and in the main veterinary drug shops.
This idea was introduced during the training at sub-DAH and DVS staff positively answered.
This **feedback is very important when running a surveillance system to keep the motivation of the stakeholders** who collect and send information. They need to have a feedback of the job they do. Furthermore, receiving information on the animal health situation of their district is also interesting for them.

An example of the piece of information that could be disseminated is provided in annex 6.
At SDAH level, the same type of analysis could be done for the province.

This feedback was discussed during the 2 days-training organised in provinces and inputs from working group discussion in Phu Tho province were introduced.

⇨ *The national consultants should now finalise this format directly with the provinces and some district stations before dissemination to all the districts.*

Summary of proposed activities

Activity n°1. Set up hotline at province levels

Activity n°2 Training on Detection and Reporting

a. TOT for DVS staff at provincial level
b. Training at district level for paravets, drugs sellers and feeding sellers (by DVS after a TOT)

See annex 3 for training objectives and training content proposal

Activity n°3 Improve data standardisation at every level

See annex 4, 7 and 8

Activity n° 4 Adverstise on the rewarding policy
Activity n° 4 bis set up an Emergency Funds for Animal Health (to be considered in case of failure of the rewarding system and immediate compensation)

Activity n° 5 Awareness of Political levels for:

c. Reporting
d. Allowances for head of paravets
e. Budget for travel expenses

Activity n°6 Organise a census of paravets in every communes

Activity n° 7 Organise a census of semi-commercial farms in every districts + distribution of farmers book note = technical documents

Activity n° 8 Support data collection at DVS level by visit to commune or monthy phone contacts

Activity n° 9 Support the data analysis and dissemination at district and provincial levels

Activity n° 10 Support meeting in the villages for community involvement (moral contract)

To be considered in case of failure of current system.

3. Proposal for active surveillance plan using Participatory Disease Surveillance, PDS, approach

Objective:
Enhance the overall sensitivity of the HPAI surveillance system by introducing **risk based surveillance activities**

3.1 General introduction to the programme

Different actions have been proposed to stimulate the passive reporting system for acute poultry diseases, thus it is expected that more suspect cases will be detected and notified to the veterinary services. But, in order to increase the confidence in this passive reporting system, the following active surveillance programme is proposed.
The general principle for this programme is to provide support to the head of paravets or district vets to go on the field to actively look for evidence of HPAI outbreaks. A disease-free status certification is also proposed for the semi-commercial sector.
All those activities will be **targeted to at-risk places** in order to increase the chance of detection the infection.

Nota: a national post-vaccination programme is also implemented at a national level (in 2006, 19 provinces and some at risk districts outside of those provinces). The results of this program will be analysed by another team and was not part in this mission. The protocol, as presented in the DAH guidelines for the provinces, includes:

- Serological analysis on vaccinated chickens (1 farm and 1 village in 3 districts per province)
- Serological analysis on vaccinated laying ducks (1 farm in 3 districts per provinces)
- Virologial analysis on vaccinated laying ducks (1 farm in every districts of the 19 provinces)
- Virological analysis on non vaccinated sentinel chickens (1 farm in 1 district per province)
- Virological and serological analysis on non-vaccinated ducks (one muscovy ducks farm and one ducks farm in every districts of the 19 provinces)
- Virological analysis in live birds markets

General objectives

This programme will meet different objectives:

- evaluate the passive reporting system,
- detect HPAI suspect cases in sentinel villages,
- strengthen the surveillance of the vaccinated semi-commercial farms by testing a disease-free status certification for this sector.

General approach

This targeted active surveillance programme will have two parts:

- a programme targeting the vaccinated semi-commercial farms and based on laboratory testing: **disease-free status certification**
- a programme targeting the backyard sector (with a lower vaccination coverage) and based on clinical surveillance: **participatory disease surveillance**

The programme will be implemented in selected communes and for the participatory disease surveillance part, in sentinel villages.

Communes will be selected in each district of the project according to the risk of introduction and dissemination of AI.
A maximum of 5 communes per district will be selected (number to be defined according to the feasibility and the geography of the district)
In those communes, different activities will be performed:

- collection of dead birds in vaccinated semi-commercial farms in order to deliver a disease-free status certificate to those farms,
- participatory disease surveillance in selected villages in order to evaluate the passive reporting system and detect HPAI suspect cases.

Selection of the most at-risk of introduction or dissemination communes
Criteria for selection:

- communes with highest concentration of poultry
- communes with main roads
- communes where smugglings activities are known to happen
- communes with the biggest live birds markets
- communes with the lowest vaccination coverage for backyard sector
- communes with wetlands known to host wild birds
- commune where active surveillance under national program is not implemented

3.2 Component 1: Disease-free status certification process for vaccinated semi-commercial farms

Rationale:
The vaccinated flocks do not have identified sentinel birds neither a standardised protocol to monitor the virus circulation (the national post-vaccination program cover only a very limited number of farms). Then, it is expected that virus is circulating in this sector at a low level and without major clinical evidence. That is why it is proposed to have a targeted programme for this sector involving virology confirmation of absence of virus circulation. Dead birds will be targeted to increase the chance of detecting the virus if circulating in the flock.
Following a national regulation, the disease-free status approach has been implemented in some provinces for FMD and CSF in the past, and more recently for AI. This program aims at facilitating the national and international trade for commercial livestock industry (production and transformation). This approach demonstrates of a willing of both the private and public sector to control the major animal diseases and to advertise on this control. Based on this experience and willingness, it is proposed to have a more standardised approach to give stronger credit to a disease-free status for HPAI.

At this stage, it is proposed to adopt the certification at the farm level; it is possible to develop it at a region basis (coherent geographical area).

Targeted population: all the vaccinated semi-commercial farms of the selected communes for the first phase. Then extension to all the communes could be considered.
Proposed criteria for inclusion: more than 500 chickens or 500 ducks (limit to be reviewed according to the census)

Protocol:

- The farmer submits every dead birds during a 2 months period two times a year for laboratory analysis (for AI, NV, pasteurellosis or duck plague). The periods could be mid-December/mid-February and mid-May/mid-July.

- Certification will be issued on the basis of:
    - laboratory results: **all the dead animals or a minimum of 15 dead birds per 2 months period per flock** submitted two times a year (with 15 dead birds one can achieve with 95% level of confidence to detect the disease if the within flock prevalence is 20%, with a test sensibility at 95%, n >200).

Dead birds are targeted to increase the chance of detecting the virus if any in the flock. Thus the selection is no more at random. If the farmer do not have 15 dead birds during the 2 months period, DVS will have to sample at random the remaining birds from the flock.

    - biosecurity measures implemented in the farm (to be developped by biosecurity expert) assessed by a visit two times per year by the DVS.

Estimated cost

The cost will vary according to the test used.

Option 1: virus isolation (the diagnosis is not made on a urgent basis, thus this method could be suitable).
For a minimum of 15 samples per flock or farm: around 40 USD / flock or farm for a 2 months period.
Total: around 80 USD/ year/farm. (43 000 vnd / sample).

Option 2: RT PCR for detection of virus and identification of subtype.
For a minimum of 15 samples per flock or farm pooled by 5: around 55 USD / flock or farm for a 2 months period.
Total: around 110 USD/ year/farm. (300 000 vnd / sample).

Those costs are indicative and do not take into account the service cost.

Performance indicators, PI

PI 1 for programme implementation
A visit record must be filled for each farm visit (the number will be specified once the list of semi-commercial farms meeting the inclusion criteria will be set-up). The objective will be to have at least 90% of the farms visited per year.

PI 2 for certification
A minimum of 15 dead animals per flock or farm per 2 months period have to be sent to the laboratory for analysis. This sould be repeated at least two times per year.

Person responsible: DVS staff

Incentive for the farmers:

- AI, NCD, pasteurellosis or duck plague diagnosis will be performed and results will be feedback to them
- Farmers will receive a disease-free status after each monitoring period that will facilitate trade outside of the district and province.

Implementation / Workplan:
December 2006 – January 2007
The programme has been presented and discussed with the epidemiology team at DAH. Comments from the national team have been taken into account. It is then necessary to obtain a final approval for the programme.
January 2007- February 2007
The programme could be discussed at provincial level. Once the final programme will be approved, a general meeting with DVS staff could be organised to present the objectives of the programme and the way to implement it.
One person at the provincial level will be trained on data compiling and analysing.
March 2007- April 2007
The DVS will organise a census of semi-commercial farms in selected communes and will select the farms under certification process with the assistance of national consultant and project manager.
The farmer will have to sign an agreement to make sure he understood the purpose of the programme.
May 2007
The programme could start in the selected farms.

Sustainability:
In order to assure the sustainability of this programme, the **farmer financial involvement in the cost of the testing could be considered**. At the current time the farmers are paying for getting a health certification that is finally a pure administrative procedure. If they could use this amount for a real certification program, both parts are winning.

3.3. Component 2: Participatory disease surveillance

Rationale:
Participatory epidemiology, PE, can be used to locate disease outbreaks, we call it Participatory Disease Searching or Participatory Disease Surveillance.
To introduce PE skills for the field veterinarians (the communal head of paravet or the district veterinarians) may help to strengthen the link between the official veterinary services and the key informants of the animal sector. This may improve the routine animal diseases information data flow.
In the current context, it could also be used to assess the passive reporting system.

Targeted population: unvaccinated birds from semi-commercial or backyard sectors in selected villages (mainly animals born between 2 vaccination campaigns and illegal ducks flocks)

Sentinel villages selection: within the selected communes, villages will be selected according to the poultry density and the presence of both semi-commercial and backyard systems. If possible the village should have a drug shop.
They will be named **"sentinel villages"**. According to the extent of the commune, between 3 to 5 villages will be selected.

Protocol: information on health status of the poultry will be collected thanks to interviews of key informants every month by the head of paravets or district staff of the selected communes and by direct observations.
The key informants will be:

- at least one drug and feeding seller of the selected villages
- heads of selected villages or paravets of those villages
- human health workers of the selected villages
- at least 10 families per village selected

All the interviews will be summarised in one form per village per month (see annex 9).

The head of paravet or the district officer will look for evidence of outbreaks consistent with HPAI using the case-definition that includes: unusual mortality, sudden death or clinical signs of either AI, NCD duck plague or pasteurellosis.

Instead of a formal questionnaire, he will have a check list of information to collect when organising interviews (see annex 9). When he will visit the families, he will also have to do direct observation of the poultry.

The output of the interviews should be summarised as follow:

- in the village visited, no suspect mortality or disease on poultry were reported in the past month
- in the village visited, suspect mortality or disease on poultry were reported in the past month, but the situation is now normal
- in the village visited, suspect mortality or disease on poultry is currently reported.

In the last case, immediate action will have to be implemented. In other cases, head of paravet or district staff will send their monthly reports.

The data collected by this mean will be compared with the data collected by the passive reporting system in order to detect under-reporting of sensitive health events.

***Nota**: it was initially proposed by the consultant that heads of paravets could implement this program. The DVS could then collect monthly the results of the interviews from them.*
National epidemiology expert proposed that DVS could implement directly the interviews.
The two options can be considered. The only constraint to be feared if the DVS staff are doing the interviews is that the key informants may feel less conformatble to speak frankly. The consultant is not in position to make any judgement on this point in the national context. It has to be decided among national experts.

Performance indicators:

PI 1 for programme implementation
Each month, interview records will be filled for each village: between 15 to 25 records per month per district are expected. The objective will be to have at least 80% of the villages visited.

PI 2 for evaluation of the reporting system
When a village visited reports a suspect mortality or disease on poultry during the past month, the information should have been received by DVS by passive reporting. The objective will be that at least 70% of the suspect cases detected by active surveillance were also reported by passive reporting (via hotline, direct contact to DVS…)
This PI will have to be considered in relation with the awareness campaign. One can expect to have better achievements once the trainings in the communes will be completed.

PI 3 for evaluation of DVS activity
When a suspect case is reported by head of paravet because of detection of abnormal signs during his/her visit, he must inform the DVS and the DVS must visit the farm/village in order to confirm or rule out the suspicion.
The objective for this PI is to have 100% of the suspect case reports investigated by the DVS.

Data compiling and analysing

At DVS level, forms will be compiled and transmitted to the provincial epidemiology division, responsible for analyses and follow-up.
A follow-up table is proposed in annex 10. It will facilitate the monthly follow-of performance indicators.

Implementation / Worplan:

March :
Training in participatory epidemiology, PE (1 week in North, 1 week in South)
Head of paravets or district staff should receive training on participatory approach to facilitate the data collection.
It is proposed to train a national team of trainers and then to organise trainings at commune level to introduce the programme. Another option could be to organise 2 trainings, one in the North and one in the South, gathering all districts of the projects
The national TOT could be implemented by expert on participatory epidemiology. Proposed names: Andy Catley (Ethiopia)?, Tim Leyland (DFID)? Jeffrey Mariner (ILRI)? Others according to availability?

During this training, different selected tools used in PE could be exposed to the trainees such as informal interviews, proportional piling, seasonal calendars, matrix scoring, Venn diagrams.
If no PE experts are available, a simpler training only focused on this programme implementation would have to be prepared by project team.

On- field testing (1 week in North, 1 week in South)
In order for the freshly trained team to test the tools of the participatory epidemiology, it is proposed to implement a survey to characterise the main poultry diseases known by farmers. This survey will enable us to better understand how the farmers differentiate the different poultry diseases, and then to adapt our message to them.
The team will be followed up by the expert.

From April to August : Surveillance programme implementation
Once the team of head of paravets or district staff trained and once the initial survey implemented, the programme of surveillance can start.
One staff for provincial veterinary services will be responsible for:

- following-up the smooth implementation of the programme in the communes,
- organising regular meetings with heads of paravets or district staff to assess the method used on the field
- compiling and analysing the data collected.

The national consultants will have to follow-up the performance indicators to monitor the implementation and assist the provincial staff in case of major obstacles.

Septembre 2007: Evaluation of the programme

General recommandations

Passive reporting system
National team needs to careful follow-up the trainings at district level in order to assess if the DVS staff clearly got the messages conveyed during the initial trainings at SudDAH.

The training at district level should involve in a second step all the paravets of the targeted communes as well as the drug sellers.

Distribution of communication tools must be controled by provincial consultant.

The number of carcasses sent by the 4 provinces to laboratory for diagnosis should be followed-up carefully as a clear indicator of the impact of the awareness campaign.

The national consultants can follow-up the use of the outbreak form by district staff in order to detect any obstacle in its use and then to propose adaptations.

The national consultants can work with provincial team to finalise the feedback form and assure its distribution to every districts.

An evaluation of the awareness campaign could be planned after Tet, in order to figure out if:
- the message is clearly understood,
- the farmer and paravets still face some constraints to report

A census of semi-commercial farms could be implemented in pilot districts with distribution of technical guideline and possibly a production book-note to be developped.

A census of paravets, if not available, could be implemented in pilot districts

A seminar could be organised in Hanoi involving provincial authorities of the 4 provinces (agriculture department and SubDAH). This seminar would be a place for the authorities to exchange on their different regulations related to:
- the organisation of their veterinary network at the commune level,
- the allowances provided to the head of paravets at commune level
- the funding of travel expenses for district staff

The creation of an emergency fund involving the private sector could be considered in case of failure of the current system for rewarding policy and immediate compensation of the first case declared.

The idea of a moral contract at the village level could be explored in some places where awareness campaign did not succeed.

In a medium term approach, the project could consider to support the licensing process of paravets.

Active surveillance program

The final program needs to be presented again to DAH for comment and approval.

Decisions need to be taken on:

- the way to organise the training for the participatory approach component (by PE expert or locally)
- the person responsible for implemented the interviews within the participatory surveillance component: commune head of paravet or district staff.

Feasibility needs to be discussed with provinces in term of number of communes and farms part of the program and in term of logistic (samples collection in the semi-commercial farms and transport)

Farmer financial involvement in the disease-free certification process could to be assessed.

Resources

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Acknowledgements

The author would like to thank:

- Dr Jeff Gilbert, FAO HPAI coordinator,
- Dr Hoang Van Nam, deputy Director of DAH

The author is grateful to:

- the DAH, especially national counterparts - Dr Phan Quang Minh, Dr Nguyen Ngoc Tien – and Dr Do Huu Dung for their significant contribution to the discussion on the surveillance strategy,

- FAO team: project managers, Mathieu Carles and David Hadrill, and technical assistant, Aurelie Brioudes, for our fruitfull exchanges and nice collaboration.

- National consultant, Dr Pham Thanh Long, for his support during the mission

Annex 1 Review of existing surveillance models in Vietnam, with particular emphasis on poultry diseases surveillance and reporting - Proposals for improvement

1. Current passive surveillance model for animal diseases

Sources:

- Needs assessment mission, JTF project.
- Baseline KAP study, CARE International in Vietnam, August 2006
- Assessment of the Pre-Tet Information Education and Communication Campaign to fight HPAI in Vietnam, CIRAD 2006
- Rapport de stage, Contribution de l'épidémiologie participative à l'amélioration du système d'information en santé animale dans le district de Dinh Hoa au Vietnam, Camille Ninio, 2006.

1.1 General findings

The commune level: the keystone of the current animal diseases surveillance system

The current surveillance model is based on the reports of animal diseases information collected by the paravets to the commune level (CVB or head of paravets according to the circumstances) and then data transmission following the administrative hierarchy of the veterinary services pyramid.
Even if the transmission within the veterinary services may be more or less efficient according to local constraints, there is no major technical obstacle to get the data from the district to the SDAH and then to the DAH. On the other hand the way the data is collected on the field and how it is transmitted may take very different forms with very different results. Thus, the commune level is identified as the keystone of the system.

Early notification is part of the current model

It seems clear to a part of the stakeholders that HPAI need to be reported on an urgent way. Then the concept of early notification is part of the surveillance system.

1.2 Detailed description

Administrative level	Technical person who received the information and who can/ has to transmit it	Identified weaknesses / constraints for information transmission	Solutions already tested	Proposals for pilot project
Village	Head of villages Paravets	Not aware 1)to whom they have to report 2) in which cases they have to report 1)Poultry sector does not represent a big part of their activities, so they do not collect too much information on this sector Reasons = - not competent on poultry diseases - the farmers does not spend money for poultry treatment - farmers is able to treat himself 2) No link with the Commune Veterinary Board or with the head of paravets 1)Not aware a) to whom they have to report b) in which cases they have to report and not to treat (pb of case-definition, not aware of their duties	Creation of professional associations Nomination of a head of paravet Awareness campaign Hotline (Ha Tay, Nam Dinh) with free access	Involve some head of village in the training in the districts Need to organise an **active surveillance component** to fulfil the gap of the routine surveillance system **Strengthen the link between "normal" paravets and the CVB or the head of paravets : see commune level** Strengthen the awareness campaign by providing posters with simple and clear messages at key points (veterinary drug and feeding shops, markets, school),related to the need and way to report[1] Targeted training for private vets and drug sellers: how to communicate with farmers

[1] Comments:

- During the field visits, no poster were seen on the drugs and feed shops whereas they are places visited by most of the farmers and paravets. Then there is a need to better follow up the way the communication tools are distributed in the field.
- It seems that there is no poster explaining simply 1) whom to report, with telephone number (with one exception in a Province in South)… 2) what are the interests of the farmer to report 3) what are his obligations

	Private vets and drug sellers	regarding the regulated animal diseases) 2) Has to financially support the report by phone 3) no incentive to report in comparison with the commercial risk to report 1) No link with official services 2) Not aware of their duties 3) Reporting is against their commercial interest	number Rewarding policy for the first paravet who will report (Nam Dinh)	on the need and importance to report a suspicion.
Commune PCC / Agricultural cooperation office (one or 2 per commune)	Head of paravets (not in every provinces) Chief of Commune Veterinary Board Local authorities	1) No motivation to collect information from paravet because no allowances 2)No link with all the paravets of the commune 1)No clear understanding of the need to report to DVS and to control the outbreak	Monthly allowances provided (Phu Tho = 120 000 vnd, South: from 120 000 to 300 000 vnd))	1)**Support enforcement of national decree** related to the allowances for animal health workers at commune level⇨awareness actions for People committee at provincial/district/commune levels 2) **Strengthen the link between "normal" paravets and the CVB or the head of paravets : a)** by editing and distributing a common **reporting book note** (the book note will help the paravet to collect simple but useful information and will give him the contact of the person he has to report the animal diseases information) b) by organising **census of all the paravets** working in the commune (with localisation and phone contact if any) (medium term = licensing of the paravets at the provincial level) Awareness for the local authorities (they should be invited to the training and should

		2)No willing to take responsibility for economical losses in the commune		receive the communication tools)
District District Veterinary station	District Veterinary staff	Do not go on the communes or villages for collecting data from head of paravets Budget constraint for DVS staff to organise data collection at commune level Link between DVS staff and CVB is not always strong or formalised	Planned visits to communal head of paravets (Nam Dinh) Budget for field travel expenses identified in the annual DVS budget Extra allowances provided according to the activities Contact the head of paravet or the chief by phone	For district with strong constraints to go on the field[2]: **organise the monthly data collection by phone**: Set up a list of all head of paravets and their substitutes 2) Set up a monthly phone meeting (the DVS will call the paravets) 3) Provide standard forms fro reporting (to be developed in the JFF project based on existing forms in some provinces) Support the idea of a budget for field travel expenses in the annual budget clearly separated from the salaries⇨ **awareness actions for People committees** at provincial/district/commune levels

1.3 Early notification system

The start of any early notification system is the detection and the notification by the farmer himself. Indeed, he is the initial point where the information is coming from. In the context of contagious animal diseases such as AI, reporting is not without consequences since control actions can be applied on his farm if the suspicion is confirmed.
There are many reasons why a farmer will or will not report a suspected case of AI. Most of them have been identified by previous reports and are summarised here. Proposals are made in order to compensate the constraints to report.

Identified reasons for a farmer not to report	**Solutions already tested**	**Proposals for pilot project**
Does not know who to inform	National awareness campaign informed that the farmer should report to the vet authorities, BUT this advice is considered difficult to implement probably because more details should be given (clear contact or phone…) Some local initiatives produced leaflets giving phone contacts: DVS staff Hotline set up at provincial level	Identified one or several **phone contacts** at DVS (office or hotline) **to be used on the leaflets and posters** for reporting awareness campaign (the poster and leaflets can be printed with a blank areas in order to fill the phone number by hand at district level)
Have small number of poultry, so give little importance (Will burn or bury animals)	Awareness campaign	Awareness focusing on the responsibility of the farmers towards his/her community and his/her family.
Have no clear understanding of their reporting duties concerning regulated contagious diseases		**Information on the reporting duties of farmers** in relation with regulated animal diseases in the frame of reporting diseases awareness campaign
Will lose money of control policy is applied and /or if compensation is coming long after the culling		Support **the creation of an emergency fund at the provincial or district level** (petty cash available for immediate compensation + rewarding):1) identify with provincial authorities where this emergency fund should be managed and define the procedures for management 2) advertise about this fund

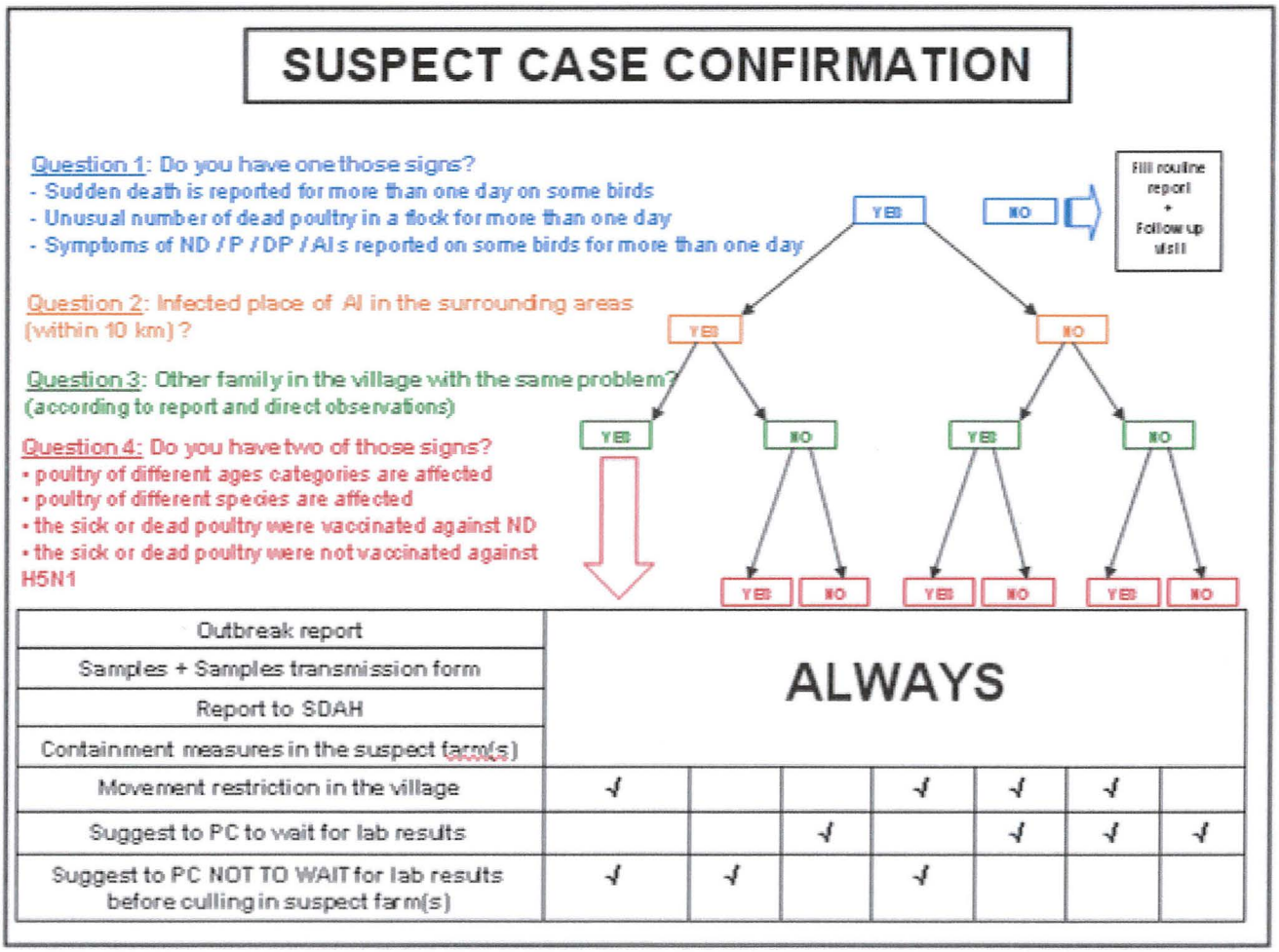
Annex 2 Proposed case-definition for awareness campaign and decision tree for DVS

Proposed case-definition for farmers

Sudden death on some birds
Or Unusual number of dead or sick poultry
Or symptoms of ND or pasteurellosis or duck plague Or AI on some birds

Proposed decision tree for DVS in case of suspect case visit

The observations must be filled for an outbreak, not for an individual



Acknowledgment to A. Brioudes for drawing

Annex 3 TOR for the trainings on detection and reporting

1. Objectives of the training

TOT for DVS staff at provincial level

Objectives:

- Update knowledge on AI detection (case-definition)
- Remind procedure for reporting
- Remind procedure for investigation (introduce and discuss the decision tree and the outbreak investigation form)
- Inform on the need for data standardisation and introduce and discuss the recording book
- Provide pedagogical aids and provide pedagogical techniques for DVS being able to organise training for paravets and sellers
- Present and discuss the messages to be passed to the paravets and sellers
- Introduce the communication tools (book note, sticker, poster and leaflet) to be used during training at district level
- Practical training on necropsy and sampling

Training at district level for paravets, drugs sellers and feeding sellers (by DVS after a TOT)

Objectives:

- strengthen link between all paravets at commune level
- inform on the way to report on routine basis and at emergency
- give recommendations on the way to communicate to farmers and how to convince them to report in case of unusual mortality in poultry
- standardise the information collected by paravets on animal heath events

2. Proposed agenda for DVS training

Proposed Agenda of day 1 – HPAI Updates

Time	Topics
8 h 30 – 12 h 00	• General introduction (10 min) • Vaccination consequences (15 min) • Case definition and detection (10 min) • Case confirmation and Investigation (40 min) • Coffee break (15 min) • Reporting (15 min) • Control (40 min) • DVD projection on Vaccination techniques (20 min) • Discussion
12 h 00 – 13 h 30	LUNCH TIME
13 h 30 – 17 h 00	• Autopsy practice (1 hour) • Sampling (30 min) • Coffee break (15 min) • Data standardization with group discussion (1 hour 30) • Evaluation (20 min)

- **Proposed Agenda of day 2 – Training of Trainers**

Time	Topics
8 h 30 – 12 h 00	• Case definition for farmer (30 min) • Presentation of communication tools and reporting (1 h) • Introduction of book note for paravets and DVS – Arabic phone (1 h)
12 h 00 – 13 h 30	LUNCH TIME
13 h 30 – 17 h 00	• Messages for farmers – Play Role (1 h) • Prepare an agenda for training at district level (45 min – 1 h) • Discussion

3. Training organisation

Training of DVS staff

The training on reporting will be part of two-days training covering as well the sampling techniques and the outbreaks containment procedures.

One training session will be organised in each project provinces.

The trainers will be the two national consultants and the two international consultants on field operations.
The consultant will assist for the first training in the North in order to test the pedagogical tools proposed.

Training of paravets, drug and feeding sellers and poultry traders

2 or 3 trainings will be organised in each district in order to cover all the communes of the district.
The DVS staff trained at SDAH level will be responsible to organise and implement the trainings.
The national and international consultants will supervise the first trainings done by DVS staff.

4. Evaluation

Two evaluations will be done:

- evaluation of the training by the participants
- evaluation of the participants

The evaluation forms will be drafted by national consultant with support of international experts

5. Messages and information to be conveyed to the District Veterinary officers

AI detection / Case-definition:

⇨The vaccination campaign was successful in Vietnam, the epizooty stopped.
⇨If HPAI outbreaks happen it will be not so extended as it was before since a part of the domestic poultry is protected against the virus.
⇨The full list of typical clinical signs will never be observed on a single animal. It is possible to observe some of the typical clinical signs at the outbreak level (not individual level)
⇨ HPAI may have different levels of clinical expression (from per acute to acute) and the clinical expression on vaccinated birds might be very limited.
⇨ HPAI cannot be differentiated from NCD on clinical basis

⇨ the case-definition for farmers must be as simple as possible and must assure that the main acute poultry diseases are reported as well
⇨ if farmers or paravets are reporting suspected cases that are confirmed to be NCD, this will mean that the surveillance network is working properly

Confirmation of a suspicion

⇨DVS must be able to confirm or deny a suspicion of HPAI based on standardised epidemiological criteria
⇨A suspicion may have different levels: highly suspect case, moderate or low suspect case
⇨ Present the decision tree and discuss it.

Investigation of an HPAI suspected case

⇨ In case a suspicion is confirmed, it is important to try to identify the cause of the outbreak: where the virus is coming from?
⇨ Present and discuss the outbreak investigation form.

Data standardisation
⇨ Information need to be recorded to assure quality and appropriate management
⇨ Introduce the recording book to be used to record suspicion reports for DVS and SDAH

Data analysis
⇨ In order to motivate people involved in surveillance activities, it is important that a feedback is organised
⇨ Discuss on a possible medium for information feedback at district level

6. Message the DVS have to convey to the paravets, drugs and feeding sellers and poultry traders.

The case-definition for AI must be presented and explained
The vaccination provides a good protection for clinical expression of the disease but does not prevent totally virus circulation, so it is still important to suspect AI.
Reporting an important animal health event, such as AI, is important because:

- if the disease is contagious, it may affect all the animals of the village
- if the disease is dangerous for the human health, it is needed to destroy the animals and to carry out disinfection by skilled teams from the district veterinary stations.
- it is under the regulation that animal health stakeholders have to report suspicion of regulated diseases.

Where and how can you report?

- by contacting the head of the paravets at the commune or the head of the village
- by phoning directly to the DVS or by using the hotline

Which information you need to transmit?

- the exact place you have seen the suspect case
- your contact
- the information on the disease: when it start / how many animals are sick or died / the main signs observed
- Possibly: if there are houses or farms around with the same kind of problem

7. Pedagogical techniques proposed

7.1 Course and meeting (Cognitive domain)

At SDAH, course and briefing will be organised using power point presentations prepared by national consultant with assistance of international experts.

At commune level, the DVS will use A0 format paper as medium for their message.

Additional aids:
Posters, leaflets and stickers will be distributed to drug and feeding sellers
Leaflet, stickers and book note will be distributed to paravets
Leaflet and stickers will be distributed to poultry traders

7.2 Group discussion on data standardisation

20' discussion for each group and 40' general discussion

The participants are divided into 3 groups and are asked to write their main findings on a board.

Group 1:
Which information you should collect when you receive a call for a suspect mortality on animals (objective: validate the recording book by taking into account inputs from working group)
Group 2
Which forms are you using from commune to district and from district to province? Are they all similar in every districts?
Are they easy to fill? What are your suggestions for improvement?
(Objectives: to assess the practices and to make the different districts aware about those practices + illustrate the difficulties for provincial and national level to deal with different kind of data collection formats)
Group 3
Which information on the animal health situation of your district could be interested to distribute to the communes every month (to head of paravets for instance)? How could you present those data? (objective: validate the monthly feedback format for district by taking into account inputs from working group)

7.3 Play Role and game (Psycho-emotional domain)

For DVS TOT: **Play Role: how to communicate with farmers and PC (45mn)**

Objective: put the participants into situation to check if they will use what they have been told during the training.

There are 5 different roles. The participants will select at random a piece of paper where their role will be written.

1 participant:
You are a farmer and you have called a paravet because you found dead chickens for 3 days in your farm. You want to have your chickens cured because you have a wedding soon and you need to kill some chickens for preparing the meal.

1 participant:
You are a paravet. You have been called by a farmer because of unusual mortality on his local chicken. You have heard about AI and you try to convince the farmer to declare the mortality. If he agrees, you will call the district station

1 participant:
You are a vet at sub-DAH in charge of receiving call from hotline. The paravet is calling you. You ask him information and then you contact the DVS.

1 participant:
You are a district vet. You have been called by the paravet to visit a farm where you have suspect mortality. You will go to visit this farm and once you have finish in the farm, you will go to discuss with the PC to inform them and suggest some control measures.

1 participant
You are the responsible of agriculture affairs at the village People Committee.

2 participants:
You will observe what the paravet is doing. You will note what is good and what is not good on the way he is talking to the farmers and on the information he is giving to the district vet

2 participants:
You will observe what the district vet is doing. You will note what is good and what is not good:

- on the way he is talking to the farmers, to the paravet and to the PC
- on the information he is giving to the district vet
- on the materiel he took with him when visiting the farm
- *Arabic phone (45mn):*

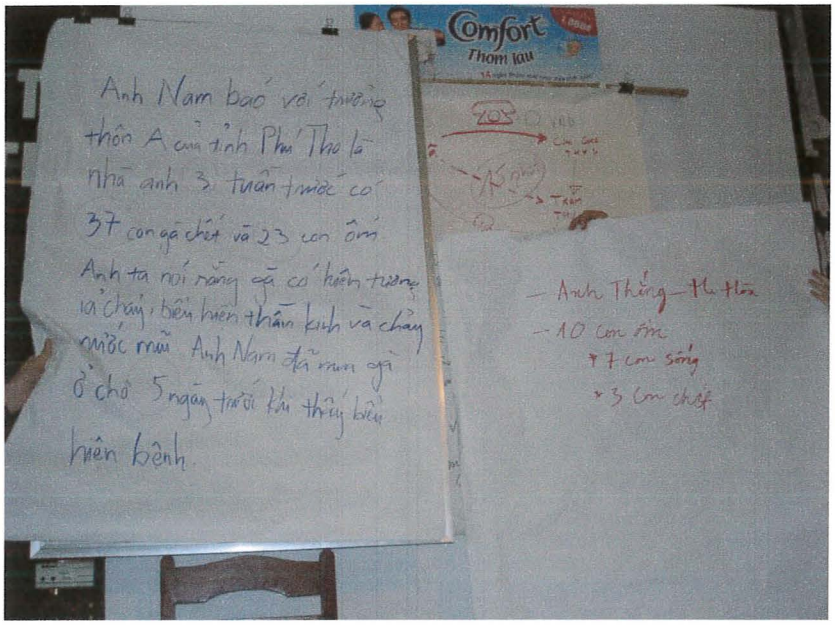
2 participants
You will observe what the sub-DAH vet and you will note what is good and what is not good when he receives the call from paravet and when he informs the district vet.

For paravets, drugs and feeding sellers and poultry traders: **Arabic phone can be done to introduce the book-note.**
Description
The group of participants is out of the classroom
One participant is invited to enter. The trainer is telling him a story about an animal health event. Then a second participant is invited to enter. The first participant is telling him the story he was told.
A third participant is invited to enter, he/she is told the story by the second participants (the first participants is not allowed to say anything) and so on.

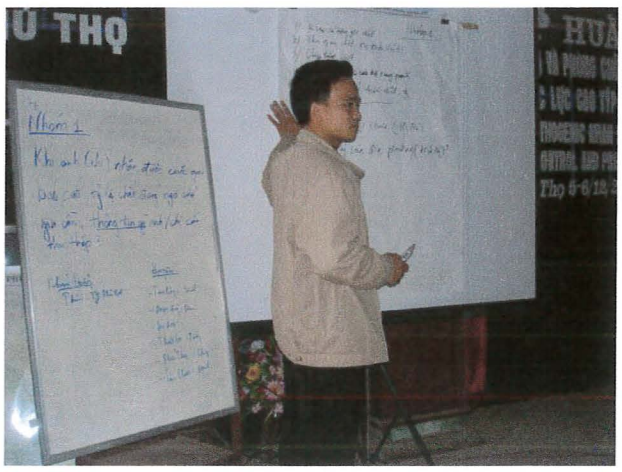
The objective of this game is to illustrate that data transmission need to be standardised and on paper medium in order to be respected! This is a good introduction for the recording book for the DVS or the book-note for paravet.

Pictures of training in Phu Tho

Result of arabic phone (to the left = initial story, to the right = final story)



Working group discussion and feedback



Annex 4 Communication tools to be distributed during trainings at district level

Initial draft messages were proposed by consultant. The final calendar and poster were developped by FAO team with the support of communication specialist and designer.
A draft version of those tools is included after the models initially proposed by the consultant.

Model for pre-printed book-note for paravets

Targeted population: all paravets of the pilot areas

Distribution procedure: by DVS during training in districts

Date	Village	Commune	Name farmer	Species Total No	Date start pb	No sick animals	No dead animals	Action	Income

When you see unusual mortality or sickness on poultry: you need to report it to the commune chief of paravet or by calling free number:

01800 .....

It is important for the health of the people
It is important for the health of the poultry of the village
It is your duty
And you may be rewarded!

Model for sticker

Targeted population: all paravets of the pilot areas + poultry traders attending training + people committee of communes and districts

Distribution procedure: by DVS during training in districts

Sick or dead poultry…It is may be Avian Influenza

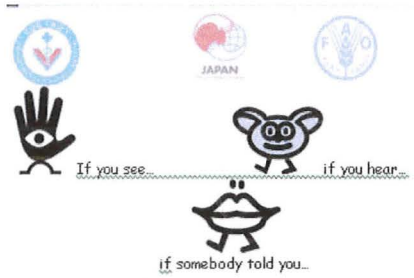
Call for free: 01800.....

You will protect your village and

Leaflet

Targeted population: one for every paravets of the pilot areas + 30 per drugs and feeding shops + one per poultry traders + 1 per people committee

Distribution procedure: by DVS during training in districts



... that there is **unusual number of dead or sick poultry**
or sudden death on poultry
(even if the animals have been vaccinated)
IT IS MAY BE AVIAN INFLUENZA...

You must inform immediately the veterinary authorities by
- **contacting the commune veterinary representative:**
  Adress: Phone contact:
- **calling a free number:** 08000....
- **by informing directly the District veterinary station**
  Adress: Phone contact:

Insert a Calendar January-June 2007

Why it is important to report AI and other important diseases?

- because the disease can be contagious and spread in all the village and detroy all the birds
- because the disease can be dangerous for the human health
- because it is compulsory

- and because the veterinary services know how to control the disease to protect the animals of the village and to protect the health of the people

When reporting the first case of AI or FMD of your district you may receive a **reward** (200 000 VND) from the provincial authority (if the case is confirmed by the laboratory)

Insert a Calendar January-June 2007

Calendar

Targeted population: every paravets of the pilot areas (10/paravets) + drugs and feeding sellers (30/shops) + poultry traders (1/trader) + people committees

Distribution procedure: by DVS during training in districts

If you see...

if you hear...

if somebody told you...

that there is **unusual number of dead poultry** or **sudden death of poultry**

(Even if the animals have been vaccinated, it is may be AI)

You must inform the veterinary authorities immediately:

Call this free number: 0800	**Inform the District veterinary station** Address..... Phone no.

or

Contact the commune veterinary representative: Name, address phone no.

[Benefits: The Veterinary Authorities will test the birds and send samples for laboratory diagnosis of major diseases, they will disinfect your premises, they will give you advice.]

Insert

A Calendar January-Decembre 2007

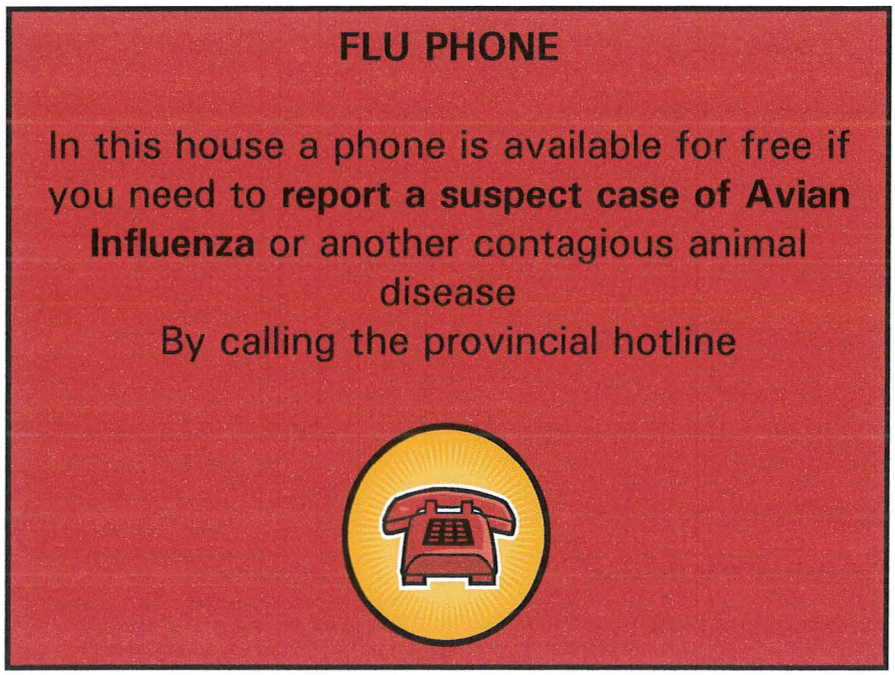

ĐƯỜNG DÂY NÓNG MIỄN PHÍ
THÔNG BÁO BỆNH GIA CẦM
ÔI! HÔM QUA 1 CON GÀ CHẾT, HÔM NAY 2 CON NỮA.
GIA CẦM NHÀ TÔI ĐANG BỊ BỆNH, TÔI PHẢI LÀM GÌ BÂY GIỜ?
ANH HÃY GỌI THEO ĐƯỜNG DÂY NÓNG MIỄN PHÍ.
Đừng chần chừ !
Hãy gọi đường dây nóng MIỄN PHÍ:
Miễn phí Xét nghiệm*
Khi phát hiện gia cầm ốm hoặc chết
Chi cục Thú Y Nam Định
1-800-555-503
CHÚNG TÔI CÓ VẤN ĐỀ VỚI ĐÀN GIA CẦM!
TÔI SẼ CỬ CÁN BỘ TRẠM THÚ Y HUYỆN XUỐNG GIÚP ANH NGAY.
CHI CỤC THÚ Y
*MIỄN PHÍ: Thuốc sát trùng cho người thông báo dịch đầu tiên ở Huyện khi xác chuẩn bởi phòng thí nghiệm
* Thưởng 200.000 Đ cho người thông báo dịch đầu tiên ở Huyện khi xác chuẩn bởi phòng thí nghiệm
... để bảo vệ gia đình và cộng đồng
CALENDAR 2007
*Cúm gia cầm , Niu cát xơn, Dịch tả vịt , Tụ huyết trùng gia cầm
JAPAN


CALLENDAR 2007
Đừng chần chừ !
Hãy gọi theo đường dây nóng MIỄN PHÍ:
Miễn phí Xét nghiệm*
Gọi miễn phí:
Chi cục Thú Y Nam Định
84-123-1234
ĐƯỜNG DÂY NÓNG MIỄN PHÍ. THÔNG BÁO BỆNH GIA CẦM
Tại sao cần thông báo bệnh gia cầm? Vì đó có thể là bệnh Cúm gia cầm
BẠN CẦN BẢO VỆ
• Gia đình và cộng đồng
• Gia cầm của bạn và tránh lây lan bệnh ...
Gọi miễn phí:
Chi cục Thú Y Nam Định
84-123-1234
CALENDAR 2007

Annex 5 Sign to be posted in selected houses in villages and PC office

Number of places where the sign need to be posted:
To be defined according to the size of the district in order to assure a good geographical coverage of the district.

Procedure:
The DVS will be responsible to identify and establish contract with selected owners of houses with phone available.
In priority, the houses should be selected among houses of head of villages and drugs and feeding shops.
The owner of the houses will receive a lump sum to be determined and should sign a contract to assure they will not ask extra money to anyone wanted to use his/her phone for calling the hotline of the province (free access number)



Annex 6 Model of Monthly District Data Feedback Form

Because of the lack of computer at DVS, a template form could be prepared for each district in order to be filled by hand every month

Diseases occurrence in.....District during month.....year .....

Species	Diseases	% of communes affected during the month (active outbreaks)	% Communes affected last month
PIG	CSF		
	FMD		
	Pasteurellosis		
CATTLE	FMD		
	HS		
POULTRY	Suspect mortality		
	HPAI confirmed outbreak		
	NCD		
	Gumboro		

Outbreaks localisation

DISTRIC MAP PRE-PRINTED AND FILL BY HAND BY DVS

MAP LEGEND

△ FMD outbreak □ HPAI outbreak ○ Suspect mortality on poultry

× CSF ⊘ HS

Information on animal diseases prevention measures (vaccination campaign...)

Annex 7 Data standardisation for DVS

Data to be collected when a call for a suspicion is received

The model is based on a form developed under AIERP project by AVSF
The form will be pre-printed in a book-note

Targeted population: DVS (2/DVS) and SDAH (3/DVS)
Distribution procedure: by FAO trainers during training at SDAH

Date :	**Time :**	**Recording Number:**			
Name of the person receiving the notification		**Function:**			
The information is coming from ☐ The hotline (via SDAH) ☐ direct call to DVS ☐ visit to DVS ☐ Other: ……..					
Contact details of the person notifying:					
Name of the person notifying:		Profession:			
Address:					
Commune:		Phone nb where this person can be called:			
Contact details of the farm suspected					
Name of the owner:					
Address of the farm:					
Commune		Phone number where the farmer can be called:			
Description of the farm:					
Species infected:	Chicken	Duck	Pig	Cattle	Other:
Other species in the farm	Chicken	Duck	Pig	Cattle	Other:
Description of the problem:					
Number of animals present: exact nb…….. ☐or <50 ☐ Between 50 and 100 ☐ >100 ☐ > 500 ☐ > 1000					
Number of animals infected:					
Date of the first symptoms:					
Brief description of the problems observed:					
Other farms in the neighborhood					
Possibly infected:		Non infected:			
☐ No information					
Additional comments (control actions done so far?):					
Farm visited	**Yes / No**		**Date of the visit:**		**Time of the visit:**
If no, justification:					

Annex 8 Outbreak investigation form

PROVINCE OF .....

AVIAN INFLUENZA OUTBREAK INVESTIGATION REPORT FORM

1. INFECTED PLACE INVESTIGATION DETAILS

What was the **date of the first cases or signs** of disease

What was the **date of the first visit** to investigate the disease

Reporting officer's name

When was the last case seen in this farm (date)

Outbreak location Name

District

Commune

Village

Village/town X coordinate: Village/town Y coordinate:

Description of village or farm. Tick √ whichever applies

Backyard or village household ☐ Commercial medium scale (2000-5000 birds) ☐

Commercial small scale (100-2000 birds) ☐ Commercial large scale (over 5000 birds) ☐

Grandparent or parent flock ☐

2. AI SUSPECT-CASE CONFIRMATION (and support for decision on control)

1. Do you have one this sign? (according to observations and report from farmer and/or paravets/vets):

Sudden death is reported for more than one day on some birds
Unusual number of dead poultry in a flock for more than one day
Or symptoms of ND or pasteurellosis or duck plague Or AI s reported on some birds for more than one day

No ⇨ the suspicion is not confirmed ⇨ fill routine report + organise follow up visit

Yes ⇨ the suspicion is confirmed ⇨ 1)collect and send **samples** with **sample transmission form 2)** complete this **outbreak form 3) report to SDAH 4)** answer to the following questions

2. Is there an **infected place for AI declared in the surrounding areas (within 10km)**?

Yes **No**

3. Are there at least one other family in the village with the same problem? (according to reports and direct observations)

Yes **No** **Yes** **No**

4. Do you have at least two of those signs?

Poultry of different ages categories are affected ☐ / Poultry of different species are affected ☐

The sick or dead poultry **were** vaccinated against ND ☐ / The sick or dead poultry **were not** vaccinated against H5N1☐

		Yes	No	Yes	No	Yes	No
Containment measures in the suspect farm(s) + sample + report to SDAH	**Always**						
Movement restriction in the village (5 "no")	√			√	√	√	
Suggest to PC to wait for lab results before culling			√		√	√	√
Suggest to PC NOT to wait for lab results before culling in the suspect farm(s)	√	√		√			

5. Did you identify some places that could be source of infection or that could have been infected by this farm? (according to part 5 of this form)

Yes: you need to visit those places and observe animals

NO: the source of infection is still unclear, you must suggest to People committee to increase surveillance in the area

3. AFFECTED AND NON-AFFECTED SPECIES IN THE FARM

Species code	Number sick	Number of deaths	Number in the farm or village	Number examined	Sex code	Age

Broilers= B Layer hens= LH Duck = D Muscovy ducks = MD Zoo animals = Z
Local chicken = LC Geese= G Guinea Fowl=GF Pigeon= P Turquey = T
Quail= Q Wild birds= WB Pheasant=P

SIGNS OF SICKNESS AND POST MORTEM LESIONS

Were any of these **signs of sickness** seen in the sick birds? Tick √ those that were seen (to be harmonised with Tadinfo

Sudden death of many birds		Many deaths over 3 days		Oedema of comb and/or wattles			
Reluctance to move / prostration		Respiratory signs		Sneezing and sinusitis			
Diarrhoea		Congestion/cyanosis of comb, wattles or shanks/hocks					

Were any of these lesions seen at **post mortem**? Tick √ all those that were seen (to be harmonised with Tadinfo)

Dehydration		Enlarged spleen		Few lesions			
Oedema of comb and/or wattles		Petechiae in trachea		Petechiae sternum			
Subcutaneous oedema		Yellow or grey necrotic foci in organs					

Add any extra comments about signs of sickness or lesions that were seen in this farm or village

4. LABORATORY SAMPLES

From which species were samples sent to the laboratory and what types of samples were sent?

Code for species	Codes for types of samples	Quantity*

(* For swab and faecal samples : 5 samples are pooled into 1 for diagnosis, quantity is indicated as pooled samples)

Code for type of samples

Cloacal swabs from healthy birds = 1
Cloacal swabs from sick or dead birds = 2
Serum = 10
Dead birds = 3
Fresh brain or trachea or lung or spleen = 4
Live birds = 7
Fresh faecal sample (5 samples are pooled into 1 for diagnosis)= 5
Impression smears of organs = 6
Tracheal swabs from sick or dead birds = 9
Tracheal swabs from healthy birds = 8

5. INVESTIGATION (source of infection – spread of infection)

- **Backward Risk Period** (2 weeks before first clinical signs): investigate all kind of dangerous movements **in** and investigate all movement of animals **out** of the farm
- **Forward Risk Period** (date first clinical signs observed until control measures): investigate all dangerous movements **out** of the farm
- **Dangerous movement**= movement of receptive and non receptive **animals+people+material**

Did investigations indicate that any of the following **sources of infection** were involved in the outbreak (= movements into the farm **during backward risk period** that could be responsible for the outbreak of the farm)?

Illegal animal movements	Yes		No		Not known	
Legal animal movements	Yes		No		Not known	
Movement of animal products	Yes		No		Not known	
Wildlife contact	Yes		No		Not known	
Fomites (vehicle of poultry traders, possibly contaminated material…)	Yes		No		Not known	
People (visitors, farmers…)	Yes		No		Not known	

Write down any additional comments you can make about the possible source of the outbreak

Location of possible source of infection

Where are coming from the dangerous movements into the farm during backward risk period?

Location of possible places contaminated by the farm

Where were going the dangerous movements out of the farm during forward risk period

Where were going the animals out of the farm during backward risk period

Those places need to be visited

6. BIOSECURITY IN THE FARM

What was the **source or sources of drinking** water for the sick birds?

Municipality supply bore | Pond | Rain collected | River or canal | Well or

Type of farming : open air (A), semi open air (SA), confined ground building (G), confined battery building (B)

Write down any additional comments you can make about the sharing of the water source or land area with other domestic or wild birds

7. VACCINE USAGE ON THE FARM IN THE PAST 12 MONTHS

Was avian influenza vaccine used on this farm or village in the past 6 months? Yes ☐ No ☐ Not known ☐

Please give details of all vaccines used on this farm or village in the past 12 months (against AI, NCD, gumboro...)

Name of vaccine	Name of vaccine manufacturer	Date of vaccination	Code for type of vaccine

Codes for type of vaccine

Drinking water = 1 Intra-ocular = 3 Injection = 2 Spray = 4

Signature of the reporter vet | Signature of the farmer | Signature of the paravet or

---

Date samples were sent to the laboratory:
Date samples were received at the laboratory:

What was the result of the laboratory tests?

Negative avian influenza ☐
Positive avian influenza ☐
Uncertain test result ☐

Write down any comments that the laboratory made about the test results

A copy of this form must be kept at DVS and another one must be sent to SDAH

Annex 9

Organisation of the monthly interviews in sentinel villages

General recommendations:

The interviewer must introduce him/herself and explain the village has been selected to be under monitoring for animal health diseases.

The interviewers must be careful not to communicate their interest in AI to the respondents: they should not ask direct questions about avian influenza at the beginning of the interviews.

The interviews must be introduced as a general study of animal diseases issues in the village.

The interviewers can introduce general questions about rumours and when a rumour about abnormal poultry diseases is reported, he must try to locate the origin of the rumour using a map if necessary.

At the end of the interview, if the respondent did not mention about poultry mortality or AI, the interviewer can inquire directly about it.

Check list for interview at the drug shop

Discuss on the current animal diseases problem in the village.

The interviewer can ask to the seller if he/she sold a lot of antibiotic during the past month and try to understand for which species. If poultry is mentioned, the interviewer can try to understand if the seller was explained the problem and if it seems to be usual for him/her or not.

If nothing is mentioned about poultry, at the end of the interview a direct question about poultry diseases can be asked: does the seller heard about any problem around on poultry?

Check list for interview of paravets or head of village

The interviewer can ask to the chief of village or the paravet what are the main animal diseases problems they are facing at this moment.

If poultry disease is mentioned, try to locate the problem in the village (in this case, the area indicated must be selected for the family's interviews).

If nothing is mentioned about poultry, at the end of the interview a direct question about poultry diseases can be asked: does the chief of village or the paravet heard about any problem around on poultry?

Check list for human health workers

The interviewer can ask directly if the human health workers heard about suspect poultry diseases in the village and if so, the interviewers will try to locate the origin of the problem.

Check list for interviews of families

When visiting the families, the interviewer must leave his/her shoes outside of the compound.

Selection of the families

10 families should be selected at random. Start from the market place (if any) or the head of village house and goes in 4 different directions (north, south, east and west). Each month, the families must be different.

For instance the first month, you will select one family every 10 houses. Next month, one family every 17 houses (select a figure at random from 1 to 20). If one family does not have poultry, goes to the neighbour one.

Interviews

The interviewer must ask general questions on the animal species present in the farm to be sure there are poultry (do not ask directly if they have poultry, but ask if they have domestic animals)

To cross check the answer of the family, the interviewer can ask if the family recently bought veterinary medicines, if yes, the interviewer must explore the reasons.

The interviewer can start the discussion on the animal diseases the family has faced recently. If poultry diseases are mentioned the interviewer must try to explore the symptoms and the morbidity and mortality rate. From the answers he gets from the family, the interviewer must decide if the description fits with an AI suspicion:

- sudden death is described on some poultry for more than one day
- the number of dead or sick poultry is unusual and last for more than 1 day
- the symptoms fit with AI, ND, pasteurelosis or duck plague.

Direct observations

When doing the interview, the interviewer must try to observe the poultry. If any signs of sickness is observed, the interviewer must try to investigate the duration of the diseases (since when the animals are sick) and if there is any mortality.

If a contagious disease is suspected, the interviewer must try to collect samples (swabs on the diseased birds or carcasses).

If so, it must be explained carefully to the farmer the purpose of the sampling: the samples will be sent to the laboratory for testing the main poultry diseases. The farmers will receive the result the following month if nothing important is found. Otherwise, he will be visited by the veterinary authorities to help him to solve the problem and to avoid having the disease spread over the village.

Summary of monthly sentinel villages interviews

Name of sentinel village: Commune: District:

Name of interviewer

Interview at drug shop

General feedback

Poultry disease was mentioned ☐ by the informant ☐ by the interviewer

Interviews of ☐ Head of village or ☐ paravet

General feedback

Poultry disease was mentioned ☐ by the informant ☐ by the interviewer

Interview of human health worker

General feedback

Interviews of families

Number of families interviews:

Name	Contact (phone if any)	Name	Contact (phone if any)

General feedback (including direct observation)

GENERAL CONCLUSION ON THE VILLAGE SITUATION:

☐ in the village visited, no suspect mortality or disease on poultry were reported in the past month

☐ in the village visited, suspect mortality or disease on poultry were reported in the past month, but the situation is now normal

☐ in the village visited, suspect mortality or disease on poultry is currently reported.

Annex 10

Follow-up Excel table

Performance Indicators for Participatory Disease Surveillance component

Province of

Village Participatory Disease Surveillance Programme

Selected commune	Selected villages		Month 1					
			Interviews record received 1/0	village without problem in the past month 1/0	village with problem in the past month 1/0	village with problem at the time of the visit 1/0	DVS visits village 1/0	DVS received report by passive surveillance 1/0
Commune 1	Village 1	1	1	1	0	0	0	0
	Village 2	1	0					
	Village 3	1	1	1	0	0	0	0
	Village 4	1	1	1	0	0	0	0
Commune 2	Village 1	1	1	1	0	0	0	0
	Village 2	1	1	1	0	0	0	0
	Village 3	1	1	1	0	0	0	0
	Village 4	1	1	0	1	0	0	0
Commune 3	Village 1	1	0					
	Village 2	1	0					
	Village 3	1	1	1	0	0	0	0
Commune 4	Village 1	1	1	1	0	0	0	0
	Village 2	1	1	1	0	0	0	0
	Village 3	1	1	1	0	0	0	0
	Village 4	1	1	0	0	1	1	0
Commune 5	Village 1	1	1	1	0	0	0	0
	Village 2	1	1	1	0	0	0	0
	Village 3	1	1	1	0	0	0	0
	Village 4	1	1	1	0	0	0	0
TOTAL		**19**	**16**	**14**	**1**	**1**	**1**	**0**
		A	**B**	**C**	**D**	**E**	**F**	**G**

1= yes

0= no

PI= Performance indicator

PI 1 = B/A*100 **84.2**

PI3=F/E*100 **100.0**

PI 2 = G/D*100 **0.0**

***PI 1** for programme implementation (*objective= at least 80% of the villages visited)

***PI 2** for evaluation of the reporting system (*objective = at least 70% of the suspect cases detected by active surveillance also reported by passive reporting (via hotline, direct contact to DVS…))

***PI 3** for evaluation of DVS activity (* objective = 00% of the suspect case reports investigated by the DVS)